

HW answers

13) C 16) B

14) A 17) F

15) D 18) E

25) $x > 5$ 

26) $n \geq -12$ 

27) $x \leq -11$ 

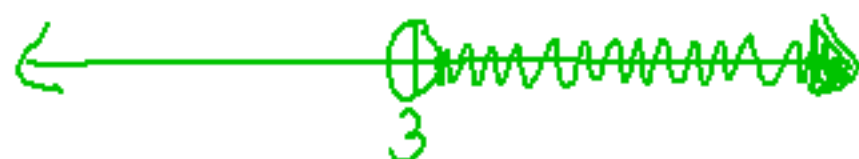
28) $x > -4$ 

29) $x < 6$ 

$$30) n \leq 3$$

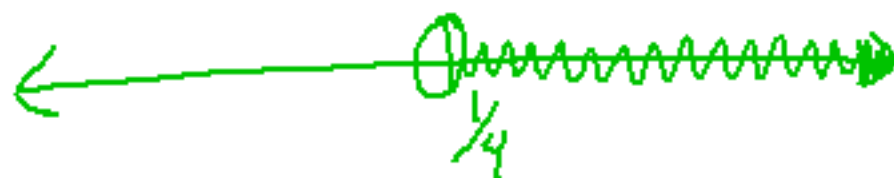


$$31) x > 3$$

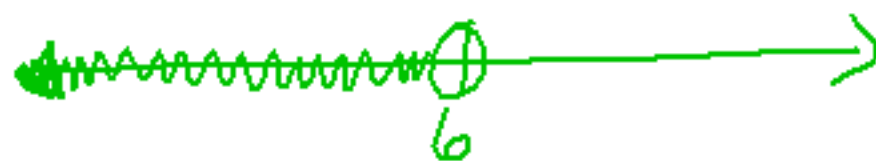


$$3 < x$$

$$32) n > \frac{1}{4}$$



$$33) x < 6$$



$$34) n \leq 7$$



$$35) x < 0$$



$$36) x < -7$$



36
28
29
33
26

$$\textcircled{26} \quad 7 - n \leq 19$$

$$\begin{array}{ccc} & -7 & -7 \\ & \hline & \end{array}$$

$$\frac{-n}{-1} \leq \frac{12}{-1}$$

$$\boxed{n \geq -12}$$

$$\textcircled{28} \quad \left(\frac{1}{2}x - 4\right)^2 > (-6)^2$$

$$\begin{array}{ccc} x - 8 & > & -12 \\ +8 & & +8 \end{array}$$

$$\boxed{x > -4}$$

(24)

$$\frac{3}{2}x - 7 < 2$$

$+7 \quad +7$

~~$$\frac{2}{3} \cdot \frac{3}{2}x < 9 \cdot \frac{2}{3}$$~~

$$9 \div (3/2)$$

$$x < 6$$

(33)

$$\cancel{4.7} - 2.1x > -7.9$$

$\quad -4.7$

$$\frac{-2.1x > -12.6}{-2.1 \quad -2.1}$$

$$x > 6$$

(36)

$$5 - 5x > 4(3 - x)$$

$$5 - 5x > 12 - 4x$$

$+8x \quad +5x$

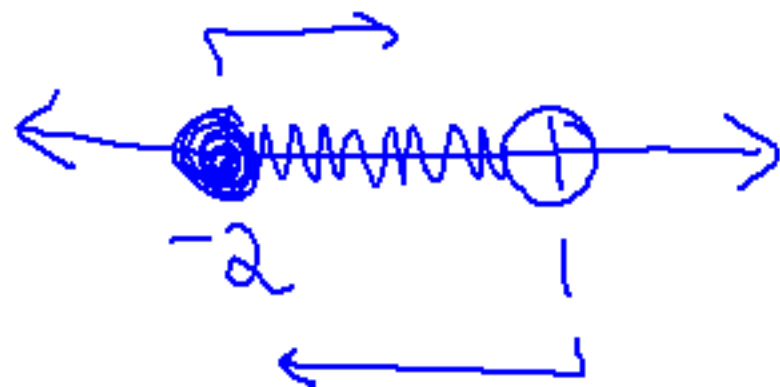
$$\begin{array}{r} 5 > 12 + x \\ -5 & -5 \\ \hline -7 > x \end{array}$$

Compound Linear Ineq.

two simple inequalities
joined by "and" or "or"

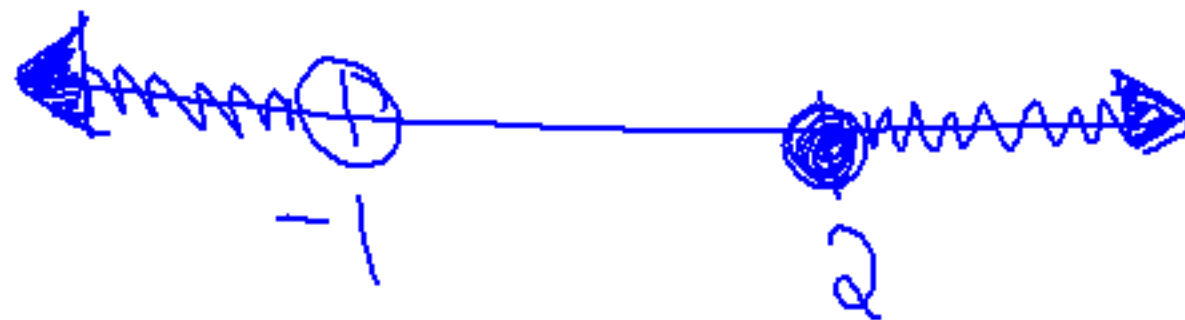
AND

$$-2 \leq x \leq 1$$

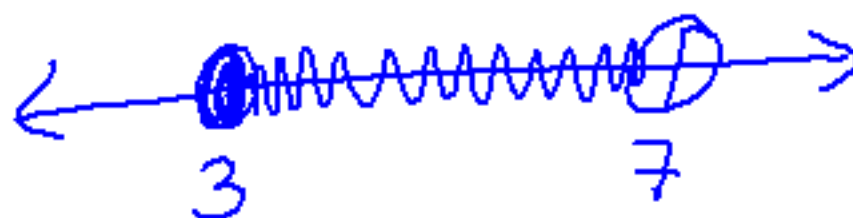


OR

$$x < -1 \text{ OR } x \geq 2$$



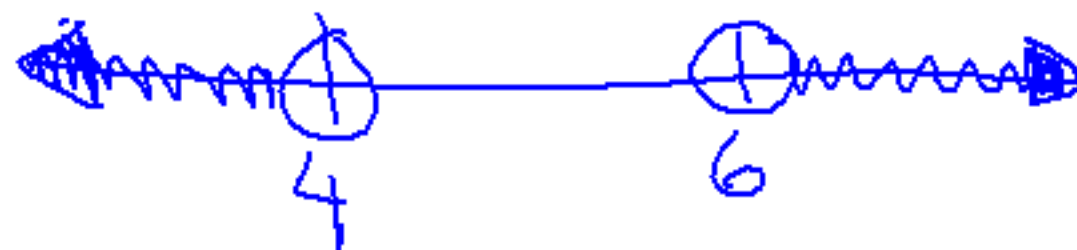
$$\textcircled{1} \quad 3 \leq m < 7$$



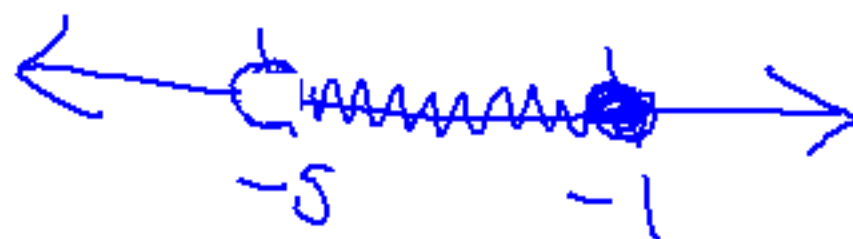
$$\textcircled{2} \quad x \leq -3 \text{ or } x > 0$$



$$\textcircled{3} \quad \boxed{x < 4} \text{ or } x > 6$$



$$\textcircled{4} \quad -5 \leq t \leq -1$$

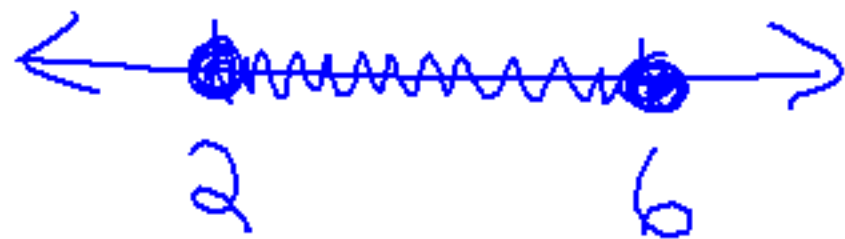


$$\text{Ex: } -2 \leq 3t - 8 \leq 10$$

$\begin{array}{ccc} & +8 & +8 \\ & \hline & \end{array}$

$$\frac{6}{3} \leq \frac{3t}{3} \leq \frac{18}{3}$$

$$2 \leq t \leq 6$$



$$6 < -3x + 12 \leq 21$$

$\begin{array}{ccc} & -12 & -12 \\ & \hline & \end{array}$

$$\frac{-6}{-3} < \frac{-3x}{-3} \leq \frac{9}{-3}$$

$$2 > x \geq -3$$



Ex: $2x + 3 < 5$

$2x < 2$

$x < 1$

~~OR~~

$4x - 7 > 9$

$4x > 16$

$x > 4$



Abs. value

the distance a number is from 0
on a # line. (direction doesn't matter)

Symbol: $|\#|$

inside: positive or negative

outside: positive

① 3 ② 3 ③ $x=5, -5$ ④ $|x+1|=5$ $x=4, -6$

$\underbrace{x+1=5 \quad x+1=-5}$

$| | = \text{negative}$, then answer is = no solution



$$|x| = -6$$

\emptyset
Phi

⑤ $|x| \leq -2$



⑥ $|3x+2| \leq -2$



$$|3x+2| \geq -2$$

⑦ ~~$|x| = -6$~~

$$|x| = 6$$

always get $| \quad |$ by itself
must graph on a # line.

$$\textcircled{8} \quad |3x+6| = 12 \Rightarrow |x| = 5$$

$$(3x+6) = 12$$

$-6 \quad -6$

$$3x = 6$$

$$x = 2$$

$$-(3x+6) = 12$$

$$-3x - 6 = 12$$

$$-3x = 18$$

$$x = -6$$



$$\textcircled{a} |4x-2| \geq 2$$

$$4x-2 \geq 2$$

$$4x \geq 4$$

$$\boxed{x \geq 1}$$

$$-(4x-2) \geq 2$$

$$-4x+2 \geq 2$$

$$\frac{-4x}{-4} \geq \frac{0}{-4}$$

$$\boxed{x \leq 0}$$

$$4x-2 \leq -2$$



$$\textcircled{10} \frac{-|2x-7|}{-1} = \frac{-7}{-1}$$

$$|2x-7| = 7$$

$$2x-7=7$$

$$2x=14$$

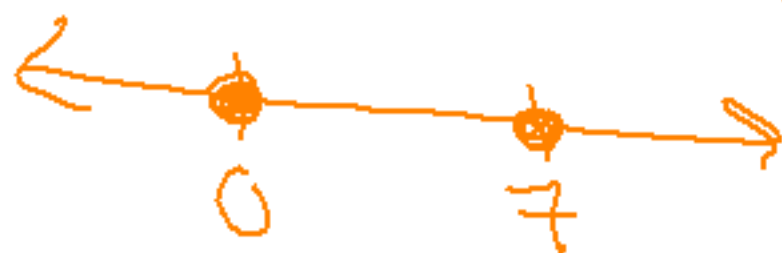
$$\boxed{x=7}$$

$$-(2x-7)=7$$

$$-2x+7=7$$

$$-2x=0$$

$$\boxed{x=0}$$



$$\textcircled{11} \frac{|2x+6|}{-2} + 2 \leq \frac{12}{-2}$$

$$|2x+6| \leq 10$$

$$2x+6 \leq 10$$

$$2x \leq 4$$

$$\boxed{x \leq 2}$$

$$\boxed{x \leq 2}$$

$$-(2x+6) \leq 10$$

$$-2x-6 \leq 10$$

$$-2x \leq 16$$

$$\boxed{x \geq -8}$$

